FISHER m-SCOPE®

1225-X

Automatic Metal Detector

Operating Manual

FISHER RESEARCH LABORATORY

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ABOUT YOUR DETECTOR

Your 1225-X was designed to do one thing well: find good, deep targets in trashy or mineralized soil with a minimal amount of hassle. Here's how it does it ...

VLF-SLOW MOTION DISCRIMINATION. In the search mode, your 1225-X will simultaneously ignore minerals and trash as it detects valuable targets. Unlike earlier motion discriminators, you won't have to whip it back and forth but, you will have to keep it moving at least slightly.

ZERO MOTION PINPOINTING. A push-button, all metal mode which requires no motion for fast, precise target location. Also referred to as "electronic pinpointing."

AUTOMATIC OPERATION. There's no ground adjust control on your 1225-X. Just turn it on, set two knobs and go. It couldn't be simpler.

PULSEGATE UNIPOLAR AUDIO PROCESSING. Fisher engineering jargon meaning that you won't have to listen to a "threshold tone" for maximum sensitivity. Your 1225-X operates so you can hear even the faintest signals on small deep targets.

DOUBLE DERIVATIVE MOTION CIRCUITRY. Provides a target response as the search coil passes over the target. Earlier motion detectors responded AFTER the coil passed over the target. Protected by U.S. Patent 4,514,692.

And of course, there's more. Like the built in arm rest and detector stand. And, the drop-in, no-wires battery compartment. And, most importantly the depth! Your 1225-X goes deep. It all adds up to one great state of the art metal detector. Treat it as you would any fine instrument and you'll be rewarded with years of service and who knows how many treasures. If you have any questions, suggestions or interesting 1225-X stories, drop us a line. In the meantime ...

Happy Hunting!
Fisher Research Laboratory

SETTING UP

The 1225-X comes to you just about ready to use. The only adjustment required is the angle of the search coil. Take a look at Figure 1 and familiarize yourself with the parts of the 1225-X before proceeding.

1. Unpack your new 1225-X carefully. Save the carton and inserts they may come in handy in the future for storage or shipment.

2. Slip the lower stem into the upper stem.

3. Adjust the stem length (using the locknut) and the coil angle (using the nylon wing nut) so that the search coil rests flat on the ground about 6 inches in front and slightly to the right of your right foot (to the left of your left of your left foot for left handers). Your arm should be straight and relaxed, the grip held loosely.

REMEMBER: The longer the shaft, the more you will have to bend your elbow and the sooner your arm will get tired. The 1225-X is balanced for comfortable searching in a tight semicircle around the front of the operator.

4. With the stem length properly adjusted, wind the cable loosely around the upper and lower stems and connect the cable connector to the control housing.

CAUTION: *Make sure that the cable is not pulled tight at the control housing and that you have enough slack at the search coil to adjust it to any angle.*

5. With the shaft length and coil angle properly adjusted, you should be able to move into your "search" position by leaning forward very slightly and raising your arm (still straight) until the search coil is about 1 inch above the ground and 12 inches in front of your foot. The search coil should be parallel to the ground and may have to be slightly readjusted at this point.

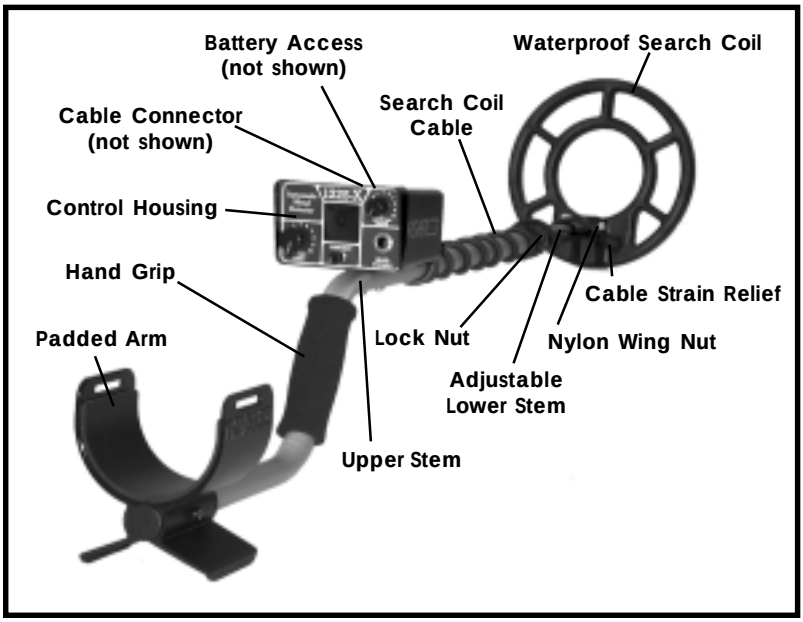


Figure 1. Fisher 1225-X

Figure 2. Search Position

Straight arm, grip not too tight, search coil close to and parallel to the ground. Remember, as you increase the shaft length, you also increase the strain on your wrist and arm.

CONTROL FUNCTIONS

1. DISC: This control turns the power on and automatically tunes the 1225-X for instant operation. All types of metal are detected at the zero level while the most pieces of trash are rejected at ten. The DISC control has no effect when the PINPOINT button is pushed in.

2. SENS: Normally set at ten, this control adjusts the 1225-X sen sitivity to targets and ground minerals. The higher the setting, the deeper you'll detect. However you will also pick up more false signals in highly mineralized or trashy soil. In the extreme counter-clockwise position this control doubles as a battery test. A loud tone indicates good batteries. A faint tone indicates weak batteries and no tone means that it's time for a change.

3. HEADPHONES: This jack accepts most stereo and mono head phones with quarter-inch diameter plugs. If you use a stereo/ mono headset, make sure it's switched into the "stereo" posi-tion.

4. PINPOINT: When pushed and held, this button switches the 1225-X into the Zero-Motion, All-Metal Pinpointing mode. By adjusting the DISC ("Discrimination") control, you will be able to ignore or ("reject") small pieces of metallic target trash and ground minerals while detecting valuable targets. The lowest setting at which an object is rejected is referred to as its "discrimination point." Discrimination points are determined by such factors as size, shape, depth, type of metal and ground mineralization.

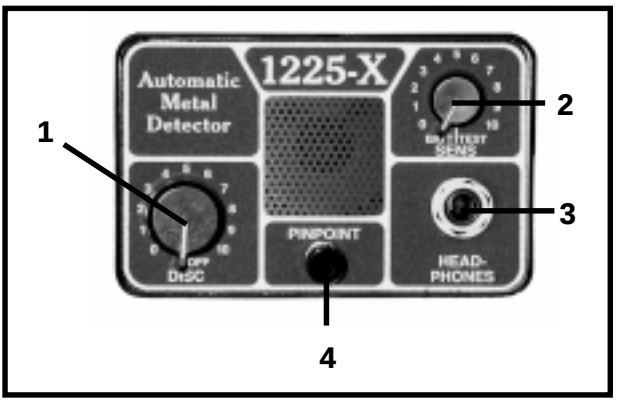


Figure 3. Control Panel. Two knobs and a button do it all.

DISCRIMINATION POINTS

By adjusting the DISC ("Discrimination") control, you will be able to ignore or ("reject") small pieces of metallic target trash and ground minerals while detecting valuable targets. The lowest setting at which an object is rejected is reffered to as its "discrimination point." Discrimination points are determined by such factors as size, shape, depth, type of metal and ground mineralization.

1. Scatter some sample targets such as coins, pull tabs and small pieces of foil on the ground 1 to 2 feet apart.

2. Turn the 1225-X on by turning the DISC control to zero.

3. Set the SENS control to 8.

4. Hold the search coil in the air, away from any metal objects and check the batteries as explained in the Control Function section (sensitivity control).

5. Hold the search coil in the air about 2 inches above and parallel to the ground. Move it slowly over the samples and note the sharp loud response as you pass over each one. Keep in mind that the 1225-X is a motion detector in the DISC mode and responds only when the search coil (or the target) is moving.

6. Increase the DISC control to a setting of 3 and again pass over the targets. Repeat this process at settings of 4, 5, 6 and so on to 10. You will note that as you increase the level of discrimination, the 1225-X will reject some targets and continue to respond to others. You have now determined the discrimination points for the rejected objects. For example, the small nail discrimination point may be at 3 and the pull tab discrimination at 7.

Note: The discrimination levels shown are typical values only and may vary from detector to detector.

7. Some objects such as shallow bottle caps, bent pull tabs or trash less than 2 inches from the coil may be difficult to reject. The 1225-X will instead respond with a broken signal which will usually disappear if the search coil is raised slightly. The strong signal of a good target will usually get weaker when the coil is raised.

8. Some objects will cause sharp static or "ticking" when rejected. This is a perfectly normal response indicating that the powerful discrimination circuitry of the 1225-X is doing the job.

9. Large pieces of trash such as beer cans or jar lids may sound like a good target no matter what you do. With a little practice however, you will be able to tell the difference between a large target and a small coin-sized object.

10. The following chart shows some different target responses you may expect at different levels of discrimination. Note that as you increase the discrimination level, you progressively eliminate more targets includ ing some good ones, such as nickels and gold rings.

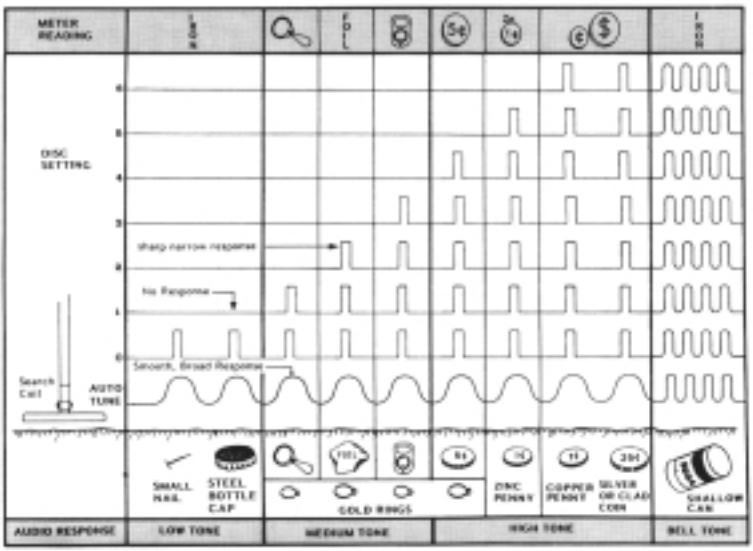


Figure 4. Discrimination. Typical 1225-X audion responses for 2-inch deep targets with search coil sweeping 1 to 2 inches above ground.

SEARCHING

Now comes the fun part - if you follow a few simple rules. Good search techniques are every bit as important as a good detector.

1. The 1225-X has two operating modes. The "Search" mode is activated simply be turning the unit on. This is a "VLF-Motion Discrimination" mode which automatically ignores most ground minerals, rejects junk and works only when the search coil is moving. The "Pinpoint" mode is activated by depressing the PINPOINT button and will be explained later.

2. Adjust your SENS control. Only experience will tell you how much sensitivity to use in any given situation but start out at 8.

As a general rule, turn your sensitivity down to reduce excessive false signals caused by highly mineralized ground interference caused by power lines, radio stations, etc. Turn it up if you want the deepest, smallest targets and you're willing to put up with a few more false signals.

3. Decide how much discrimination you want to use.

a. In relatively non-trashy soil use a low level of discrimination (2 for example). In this manner the 1225-X will detect all metal targets within its range and you can instantly increase the discrimination for further identification.

b. In trashy areas you will probably want to operate at a high level of discrimination (6 for example) to cut down on the amount of time you spend digging bad targets.

4. Keep the search coil moving at a comfortable rate. Remember that the 1225-X is a motion detector and responds only when the search coil (or the target) is moving while in search mode.

5. Keep the coil parallel to, and as close to the ground as practical. This is important for maximum coverage and depth. If you are hunting on a lawn you can rub the coil right on the grass.

6. Overlap your sweeps approximately 50%.

7. Search in a methodical manner sweeping in a tight semi- circle. Pay close attention to where you're going and where you've been.

8. TAKE YOUR TIME. If you walk too fast you can't overlap your sweeps and you'll miss a lot of ground. *If you sweep too fast, you'll lose sensitivity and miss the faint tone which will disappear as soon as the coil is raised.*

9. The diagram below shows the search coil detection pattern and how it is affected by sweep speed, discrimination level and overlapping sweeps in the Search mode.

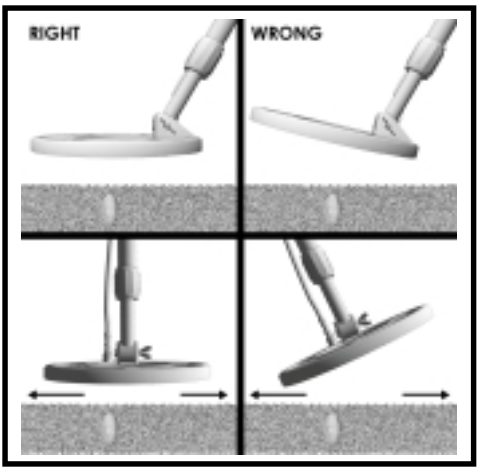


Figure 5. "sweeping" the search coil. Keep the search coil parallel and close to the ground at all times

PINPOINTING MODE

The pinpoint mode requires no tuning, no motion, detects all metals and in normal soil it's even more sensitive than the search mode. Precise target location is a snap.

1. Once the presence of a buried target is identified by the "beep beep" of the 1225-X, simply place the coil lightly on the ground away from the target area. Push the PINPOINT button and hold. (At maximum sensitivity you may hear a faint tone which will disappear as soon as the coil is raised.)

2. Raise the coil one-half inch or so and move it from side to side across the target area a few times.

3. Stop the search coil over the spot you receive the loudest response.

4. Now move the coil slowly forward and back a couple of times, again stopping over the strongest response.

5. Move the coil side to side one more time and stop over the strongest signal once again. Your target should be in the center of the search coil.

6. For quick and accurate pinpointing of strong signals, place the coil on the ground very close to the target and push and hold the PINPOINT button. You have now "tuned-out" most of the target signal so that when you raise the coil for pinpointing you will only receive a response directly over or very nearly over the target.

PINPOINTING IN MOTION SEARCH MODE

Pinpointing in the search mode will take a little practice but you may find that for most targets, it's even quicker than the Zero Motion Pinpointing Mode. Simply use the same procedure as in steps 2 through 5 above. The only difference will be that when you stop the coil over the target you will lose the audio signal. You must keep the coil moving at least slightly to determine the location of the strongest signal before you stop it.

1. For very strong signals, you may improve your motion mode pinpointing accuracy by adding one or more of the following steps:

a. Lift the coil until the signal is just barely heard.

b. Reduce the sensitivity level.

c. Increase the discrimination level.

d. Rest the coil on the ground and move it back and forth very slowly.

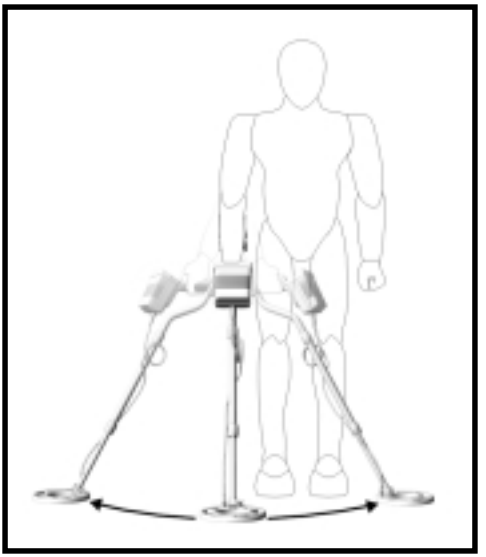
2. For very weak signals try the following:

a. Move the coil closer to the ground.

b. Increase the sensitivity level.

c. Decrease the discrimination level.

d. Speed up the sweep rate slightly.



When the stem length is properly adjusted, the 1225-X is balanced for sweeping in a tight semicircle. Always overlap your sweeps by at least 50% or you'll miss a lot of the deeper targets.

TARGET RECOVERY

Once you have pinpointed a target, your objective is to recover it quickly and neatly, leaving no trace of your excavation. There are almost as many ways to do this as there are Treasure Hunters. Whatever works for you is good enough as long as you don't break any laws, damage vegetation, or leave your search area looking like a World War II battlefield.

Generally speaking, beachcombers do little if any damage to the environment while recovering targets. However, if you plan to use your 1225-X on lawns or in parks, your target recovery method can be very important. Two of the most successful methods are illustrated in a separate booklet enclosed with your 1225-X.

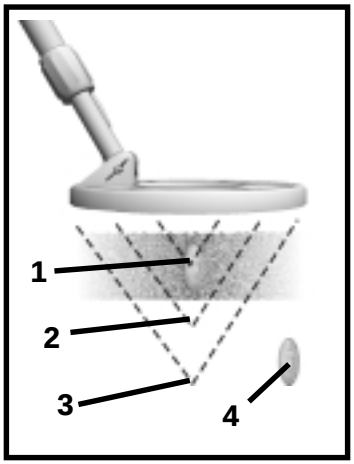


Figure 7. Search Coil Pattern

- Search Mode -

1. Minimum Depth
- **a.** Very slow or fast sweep speed.
- **b.** Discrimination set at "10."

2. Good Depth
- **a.** Moderate sweep speed.
- **b.** Discrimination set at "5."

3. Maximum Depth
- **a.** Moderate sweep speed.
- **b.** Discrimination set at "0."

4. Missed Target

Many targets within the range of your 1225-X will not be detected unless you closely overlap your swings.

Note:

Depth is also determined by the size, shape and material of the target as well as the degree of ground mineralization and sensitivity setting.

RECOVERY TOOLS

1. A heavy duty, blunt screwdriver is commonly used by expert TH'ers.
2. A sturdy hunting knife with a 5" blade will do the job in most soils. A high quality double-edged "survival" knife is an even better (and more expensive) choice since it will be almost impossible to bend or break. CAUTION: Using a pocket knife without a blade lock is a good way to lose a finger!
3. A narrow garden trowel will work in loose or wet soil.
4. Several excellent digging tools are made just for the Treasure Hunter and especially designed sand scoops are available for beachcombing. Check with your local dealer.
5. A thin, dull probe is the preferred tool for precise target location.

OPERATING TIPS

1. We've already said it but it bears repeating: TAKE YOUR TIME AND OVERLAP YOUR SWEEPS.

2. Use good headphones. You won't miss faint targets, you won't attract unwanted attention and you won't bother others.

3. Practice pinpointing. There's nothing sacred about the methods described in this manual. Many 1225-X users have developed their own pinpointing methods.

4. Always bury a coin when working in unfamiliar territory and check it at different discrimination and sensitivity levels. There may be some sensitivity loss at higher levels of discrimination. The greater the ground mineralization, the higher the sensitivity loss. For example, you may be able to detect a penny at 6 inches deep at zero discrimination, but no deeper than 4 inches at the pull-tab discrimination point.

5. The 1225-X is an easy detector to use but if you're having trouble with any aspect of its operation (pinpointing, searching, false signals, etc.) go back and reread the part of this manual relating to your problem.

6. If a target gives a strong reponse in the search mode, but no response in the pinpoint mode, you may have "tuned out" your target [and all others] by pushing the pinpoint button over another piece of metal. If you suspect this may be the case, move the search coil to another spot before pressing the pinpoint button again.

7. When in doubt about the possible identity of a target, dig it up.

FALSE SIGNALS

A “false signal” occurs when something that shouldn’t, sounds like a good target. Your 1225-X does an excellent job of ignoring junk but it’s so sensitive to good targets that it can be fooled by bad targets with similar electrical characteristics. Large pieces of trash for example, or even some kind of bottle caps and pull tabs. Small pieces of trash less than 2 inches from the search coil will also sound good occasionally.

So what do you do about false signals? Well, 90% of them will sound suspicious to you after you’ve had some experience and you’ll just ignore them. They may be very faint or very abrupt with static. Often when you go back over the same spot, a false signal will simply disappear. Other false signals may be very loud and sharp but most of these will disappear if the coil is speeded up or raised slightly. Some shallow, large or irregular pieces of junk however, will fool the 1225-X no matter what you do. Here’s some other sources of false signals and what to do about them:

1. DETECTOR INTERFERENCE: Caused by nearby metal detectors operating at the same (or close) frequency.
SOLUTIONS: Move further away or reduce sensitivity.
2. ELECTRICAL INTERFERENCE: Caused by Radio/ TV stations, power lines, etc.
SOLUTION: Move further away, lower the sensitivity, reduce sweep speed. Wrap the search coil cable tightly around the stem.
3. HIGHLY MINERALIZED SOIL: Usually causes constant static or good target sounds.
SOLUTIONS: Lower the sensitivity, increase the discrimination. Raise the search coil until false signals disappear and sweep at that height.
4. WET SAND: Same as highly mineralized soil.
5. ELONGATED FERROUS OBJECTS: If you hear two beeps very close together and can’t find either one, you’re probably over a nail or some other long iron object. But a very shallow coin or a coin on edge will give the same response.

SOLUTIONS: In all cases, the target will be between the beeps, or if you sweep at right angles to your original direction, you'll receive a single beep directly over the target (except for the very shallow coin). One way to tell the difference between a coin and a nail is to set your discrimination at about 5. Most small nails will be tuned out while most coins will respond with a good, smooth signal.

6. EXTREMELY TRASHY SOIL: May result in a constant chatter or "snap, crackle and pop" with assorted, hard-to-find good signals.

SOLUTIONS: Increase the discrimination level. An even better solution is to try the optional 5 inch coil. You'll be able to zero in on good targets much closer to junk.

7. DIGGING TOOL: If you're carrying a metal digging tool in one hand, your 1225-X may sound off each time you swing the coil beneath it.

SOLUTIONS: Hold it behind your back or up above your waist. False signals may also occur in the Pinpointing mode. When in this mode the 1225-X detects all metals so you may pinpoint a piece of nearby junk instead of a good target. For this reason, you should always recheck your target area after recovering any target to insure that you haven't missed anything. You may also receive false pinpointing signals in highly mineralized soil. In this case, it is important to keep the coil parallel to the ground and at least an inch above it.

BATTERY REPLACEMENT

Two nine volt transistor batteries are located in separate compartments at the rear of the housing. When it's time to replace batteries, always replace both of them.

1. To open, press gently down and out on the battery door latch. The doors are hinged, do not attempt to completely remove them.
2. Tilt the housing gently and the batteries will slide out.
3. Insert the new batteries. Make sure the contact end goes in first and that you match the polarity markings on the control housing.
4. To close, hook the lower edge of the battery door over the inside of the battery compartment and gently push.
5. Some battery brands may be slightly larger than the original batteries, which will cause them to not easily be removed.

Battery Replacement is simple; just pop the doors open, slide the old batteries out and the new ones in.

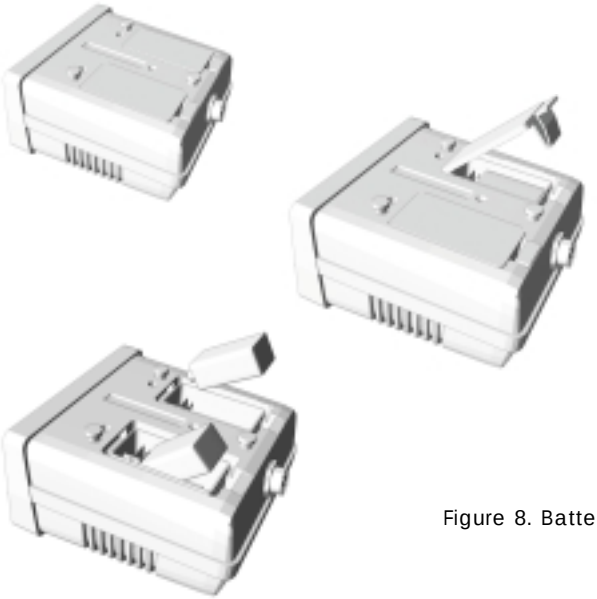


Figure 8. Battery Replacement

MAINTENANCE

Your 1225-X doesn't require a lot of care, but there are a few things you should do to keep it in peak operating condition.

1. If you're not going to be using it for awhile, take the batteries out. Acid damage caused by leaking batteries can be severe.
2. Avoid extreme temperatures like the inside of a closed car sitting in the sun. Even worse, inside the trunk of a car.
3. If you "scrub" the search coil on the ground, you'll eventually wear through the bottom. Replacement coils are expensive. Instead, invest in a coil cover.
4. Put a plastic bag over the control housing if you're hunting in rain, fog or dust.
5. Keep your 1225-X dry and clean. Wipe off the lower stem before sliding into the upper stem and keep the lock nut threads free of sand and dirt

TREASURE HUNTER'S CODE OF ETHICS

LETS PRESERVE OUR TREASURED SPORT!

Laws governing the use of metal detectors are becoming more and more common. In many countries, the use of metal detectors is illegal or severely restricted. Don't let this happen in your area.

ALWAYS get permission to hunt on private property.
ALWAYS leave a site cleaner than you found it. Take at least some trash with you or, if you can, take it all.
ALWAYS fill in your holes neatly whether you're in a city park or remote wildernessness. Leave the land as it was before you disturbed it.
ALWAYS obey all laws relating to Treasure Hunting.
ALWAYS return valuable property if you can locate the original owner.
ALWAYS do whatever you can to give the hobby of Treasure Hunting the good image it needs and deserves.

Where To Use Your Metal Detector In The U.S.

National Forest and Federal Lands—Metal detecting is allowed only by special permit acquired from the federal government. Each area has a district office.

Corps of Engineers, Lakes, Shorelines and Lands—Permission has been granted only on predisturbed sites, such as beaches and attached swimming areas. New Corps lakes and lands must be okayed by the main office of the Army Corps of Engineers. Each area has a district office.

State Parks and Lands—Some state parks are open to metal detecting, but some are not. Always check with the park ranger before attempting to use your detector.

Bureau of Land Management (BLM) Lands—Some areas are open for metal detecting, and some are not. Always check with the district office.

City or County Park Lands—Most are open to metal detecting unless notice is given by a sign or city ordinance. When in doubt, always check with the city's Parks and Recreation Department.

Public School Grounds—Most are open to metal detecting unless notice is given by a sign, city ordinance, law enforcement official, or school employee. You should always check with the school office first.

Privately Owned Lands (Private Property)—Permission required. And it is always best to have the permission in writing.

Historically Marked Lands or Sites—Metal detecting is not allowed. Don't even think about it.

SPECIFICATIONS

Length	Extended	55"
Collapsed		46"
Weight		3.1 Pounds
Frequency	VLF Search	5.5 kHz
	Audio Target Response	495 Hz
Operating Modes	Search	VLF All-Metal, No-Motion
Search Coil	Type	Concentric, Co-Planar
Diameter		8"
Shielding		4"
Interchangeable		Yes
Waterproof Search Coil		Yes
Automatic Tuning		Yes
Automatic Ground Rejection		Yes
Built-In Arm Rest and Detector Stand		Yes
Stereo Headphone Jack		Yes
Batteries		Yes
Battery Life Carbon Zinc		20-30 Hours
Alkaline		40-50 Hours

Notes:

1. Subject to improvement or modification without notice.
2. Approximate.
3. Pulsegate Unipolar Audio Processing. Advanced Fisher circuitry which allows silent operation below "audio threshold tone" with no loss in sensitivity.
4. The 1212-X is a "motion" detector while in the search mode. The search coil must be moving at least slightly to detect a target.
5. Electro-Static-Insulated to eliminate certain types of false signals.
6. Use of headphones may increase battery life up to 100%.

FISHER m-SCOPE®

QUALITY

Fisher detectors are renowned for their quality.
Each detector is hand crafted in the USA with pride

PERFORMANCE

Treasure Hunters worldwide rely on Fisher.
Our detectors are durable, dependable, and search deeper..

REPUTATION

Fisher produced the first patented metal detector in 1931. For over 70 years, the Fisher logo has been a mark of excellence.

LIFETIME WARRANTY

Fisher believes in the products we produce and backs this belief with a lifetime warranty, the best in the industry, on all of our consumer detectors. Warranty may vary outside of the United States. See your dealer for details

SERVICE

Fisher is committed to providing you, our valued customer, with superior service. Each and every instrument is rigidly tested and carefully inspected during assembly and before shipment. Should you have any questions or problems, contact:

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